

CLAIMS

What is claimed is:

1. A method of video splitting and allocation for clustered video servers, the method comprising:

defining a structure of a network packet, a structure of a distributed control file, and a structure of a clip file;

analyzing information of streaming media source files, and processing a client's requirements to obtain a splitting requirement of the streaming media source files into clip files;

defining a split files placement strategy and analyzing a clip file allocating requirements, according to the client's requirements;

analyzing the streaming media source files to construct a splitting task list and relevant control files, according to the client's requirements;

creating several threads to split the streaming media source files, wherein each thread is responsible for splitting a streaming media source file; and

distributing the clip files to relevant storage server nodes, according to the split files placement strategy.

2. The method of claim 1, wherein the streaming media source files include an Index file and a Session Description Protocol (SDP) file.

3. The method of claim 2, wherein the Index File includes a transmitting task list, a file name of a video source, a storage space of the video source, a time length of the video source, a clip file number of the video source, and a hot spot of the video source.

4. The method of claim 2, wherein the SDP file includes a media type, a number of streams included in a video source, a time length of the video source and an ID of a streaming session.

5. The method of claim 1, wherein the structure of the clip files includes a header of the clip files, an information header of media streams, and the network packet of a media streaming service.

6. The method of claim 1, wherein the analyzing of the streaming media source files includes, analyzing a number of logical time units in the media source files, and obtaining time information of a header and a number of media stream for each logic time unit.

7. The method of claim 6, further comprising repeating the analysis until all the logic time units are finished and obtaining a total playback duration, a storage space of the media source files, and an ID of the media source files based on the structure of the clip file.

8. The method of claim 1, wherein the splitting task list is produced by analyzing the media source files to find a space and time deviation of each clip file and a range of a serial number of the network packet.

9. The method of claim 2, wherein the splitting of the media source file comprises reading the Index file to obtain a number of clips, and creating several threads according to the obtained number.

10. The method of claim 9, further comprising reading the Index file and obtaining a play task list including several items, and sending each item in the play task list to relevant threads creating a splitting task.

11. The method of claim 1, wherein the client's requirements include obtaining and analyzing splitting time requirements and clip placement strategy.

12. The method of claim 11, wherein the clip placement strategy includes a data placement strategy, a hot level of a source video, and an algorithm for allocating clips to the relevant storage server nodes.

13. The method of claim 1, wherein the structure of the network packet complies with a streaming media data message in international real-time transmission protocol, including media type head, serial number, time stamp, synchronous signal, and main media data.

14. A computer readable medium encoded with processing instructions for performing a method of splitting and allocating streaming media source files, the method comprising:

defining a structure of a network packet, a structure of a distributed control file, and a structure of a clip file;

analyzing information of streaming media source files, and processing a client's requirements to obtain a splitting requirement of the streaming media source files into clip files;

defining a split files placement strategy and analyzing a clip file allocating requirements, according to the client's requirements;

analyzing the streaming media source files to construct a splitting task list and relevant control files, according to the client's requirements;

creating several threads to split the streaming media source files, wherein each thread is responsible for splitting a streaming media source file; and

distributing the clip files to relevant storage server nodes, according to the split files placement strategy.

15. The computer readable medium of claim 14, wherein the streaming media source files include an Index file and a Session Description Protocol (SDP) file.

16. The computer readable medium of claim 15, wherein the Index File includes a transmitting task list, a file name of a video source, a storage space of the video source, a time length of the video source, a clip file number of the video source, and a hot spot of the video source.

17. The computer readable medium of claim 15, wherein the SDP file includes a media type, a number of streams included in a video source, a time length of the video source and an ID of a streaming session.

18. The computer readable medium of claim 14, wherein the structure of the clip files includes a header of the clip files, an information header of media streams, and the network packet of a media streaming service.

19. The computer readable medium of claim 14, wherein the analyzing of the streaming media source files includes, analyzing a number of logical time units in the media source files, and obtaining time information of a header and a number of media stream for each logic time unit.

20. The computer readable medium of claim 19, further comprising repeating the analysis until all the logic time units are finished and obtaining a total playback duration, a storage space of the media source files, and an ID of the media source files based on the structure of the clip file.

21. The computer readable medium of claim 14, wherein the splitting task list is produced by analyzing the media source files to find a space and time deviation of each clip file and a range of a serial number of the network packet.

22. The computer readable medium of claim 15, wherein the splitting of the media source file comprises reading the Index file to obtain a number of clips, and creating several threads according to the obtained number.

23. The computer readable medium of claim 22, further comprising reading the Index file and obtaining a play task list including several items, and sending each item in the play task list to relevant threads creating a splitting task.

24. The computer readable medium of claim 14, wherein the client's requirements include obtaining and analyzing splitting time requirements and clip placement strategy.

25. The computer readable medium of claim 24, wherein the clip placement strategy includes a data placement strategy, a hot level of a source video, and an algorithm for allocating clips to the relevant storage server nodes.

26. The computer readable medium of claim 14, wherein the structure of the network packet complies with a streaming media data message in international real-time transmission protocol, including media type head, serial number, time stamp, synchronous signal, and main media data.

27. A method of splitting and allocating streaming media source files, the method comprising:

- capturing information of the streaming media source files;
- capturing client's requests information;
- creating data placement strategies;
- analyzing the streaming media source files and creating task lists;
- splitting the streaming media source files into clips; and
- transmitting and storing the clips in the servers.

28. A method of splitting and allocating streaming media source files, comprising:
simultaneously distributing allocating schemes setting splintered video slices to different server nodes of clustered video servers, utilizing parallel processing characteristics.